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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/918,648	08/01/2001	Teruyuki Ninomiya	396.40405X00	2643

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ARLINGTON, VA 22209

EXAMINER

MANOHARAN, VIRGINIA

ART UNIT	PAPER NUMBER
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1764

DATE MAILED: 02/03/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/918,648

Applicant(s)

NINOMIYA ET AL.

Examiner

Virginia Manoharan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 10-31-02.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 19-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 19-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

Claim 19 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claimed "80°C" as in the "temperature of 20 to 80°C" is nowhere in the specification.

Claims 19-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. The preamble of claim 21 recites "A process for recovering ditrimethylolpropane" however, the body of the claim does not mention a recovering step. See also claims 25 and 29.

b. The steps i) and ii) of claim 21 provides for ambiguity and confusion for the following reasons:

1. The still residue in i) is subjected to distillation after which the same still residue is subjected to acid decomposition in ii)? The process of distillation in i) will separate the feed "still residue" into at least an overhead and bottom products. The formal compound contained in the still residue is not separated in i) operation?

2. It is unclear whether "the still residue" in ii) is the crude or the remaining still residue after i)? See also claim 25 steps i) and ii) with the crystallization operation. Note also claim 1 treatment of the still residue with respect to the "subjecting" and "recovering" steps. See further the steps i) and ii) of claim 4 as well as claims 19 and 20.

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 21-23 and 25-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over GB '405

GB '405 is applied for the same reasons as set forth at page 3, first and second full paragraphs of the previous Office action.

Claims 24 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 19-20 and 29-30 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action.

Applicant's arguments filed October 31, 2002 have been fully considered but they are not persuasive.

However, GB '405 in the given Example 1 at page 3, lines 104-129 through page 4, lines 1-11 teaches the sequential process of distillation, acid decomposition and crystallization as claimed e.g., in claims 21.

While not positively recited in GB '405, obviously the high-boiling component having a higher boiling point than that of ditrimethylolpropane will naturally or inherently be removed by the process of distillation. An artisan knows that the process of distillation affects separation of a substance mixture based on differences in boiling points or according to boiling characteristics.

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Thus, the process of distillation in GB '405 would naturally separates out the above argued high-boiling component if present from the mixture containing the same and ditrimethylolpropane. That is, the separation will inherently be effected or is an ongoing occurrence in the process of GB '045 based on the physical boiling characteristic of ditrimethylolpropane. No chemical reaction is deemed to occur. Furthermore, the claims are not limited to the argued "coloring components which disadvantageously affect the final product", nor the claims preclude the argued steam distillation of GB '405 commensurate with the arguments. The "comprising" recitation in the claims is an all-inclusive term. Moreover, and contrary to applicants' assertion the claimed "use of molecular distillation" as set forth in claim 22 is deemed to be rendered obvious by the prior art since it falls under the generic "vacuum distillation" of GB '405. Also, the argued "strong acid such as sulfuric acid" of GB '405 is deemed to fall under the generic "mineral acid" claimed e.g., in claim 26.

Claim 25 for example, is not limited to the argued "organic acid such as p-toluenesulfonic acid" commensurate with the argument.

Thus, in the absence of anything which may be "new" or "unexpected result", a prima facie case of obviousness has been established by the art and has not been rebutted.

Unexpected results must be established by factual evidence. Mere arguments or conclusory statements in the specification, applicants' amendments, or the Brief do not suffice. In re Linder, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972). In re Wood, 582, F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

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Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Virginia Manoharan whose telephone number is 703-308-3844. The examiner can normally be reached on Tuesday-Friday from 7:30 am to 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-4311. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9462 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

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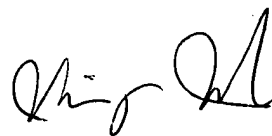
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V. Manoharan/mn

January 31, 2003



PRIMARY EXAMINER

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